Safety Advisory Committee
December 18, 2009
10:00 AM – 12:00 PM

Minutes

Committee Member	Representing	Present
Anderson, Erik	Materials Sciences Division	X
Banda, Michael J.	Computing Sciences Directorate	X
Bello, Madelyn	Human Resources Advisor	X
Blodgett, Paul M.	Environment, Health and Safety Division	X
Christensen, John N.	Earth Sciences Division	X
Earnest, Thomas N.	Physical Biosciences Division	
Floyd, Jim	Safety Advisory Committee Chair	X
Fujikawa, Brian	Nuclear Science Division	X
Ji, Qing	Accelerator & Fusion Research Division	X
Lowden, Rosemary	Information Technology Division	X
Lukens Jr., Wayne W.	Chemical Sciences Division	X
Lunden, Melissa	Environmental Energy Technologies Division	X
Madaras, Ron	Physics Division	X
Martin, Michael C.	Advanced Light Source Division	X
More, Anil V.	Office of the CFO Advisor	
Patterson, Pam	Public Affairs Advisor	
Pollard, Martin	Genomics Division	X
Taylor, Scott E.	Life Sciences Division	X
Thomas, Patricia M.	Safety Advisory Committee Secretary	X
Wong, Weyland	Engineering Division	X

Others Present: Mike Carr, Richard DeBusk, Joe Dionne, Julie Henderson, Howard Hatayama, Michael Kritscher, Don Lucas, Andrew Peterson, Bill Wells, Mike Wisherop

Chairman's Comments – Jim Floyd

- The minutes of the November meeting were approved.
- One of the lessons we learned from the SLAC laser accident that Ken Barat discussed last month was that it is important to have a plan for restarting operations after a safety stand-down. The Committee will ask EHS to report back. Paul Blodgett will discuss with Howard Hatayama.
- There have been several issue-specific groups working on chemical safety issues. Jim Floyd asked Scott Taylor to help put together a standing Chemical Safety Subcommittee by inviting a few members from each of the existing groups to serve on the subcommittee. The new subcommittee will be interacting with Larry McLouth in EHS Division.

Annual Meeting Planning – Jim Floyd

The Committee usually has an annual meeting with the Division Director. Jim Floyd asked for input on what should be discussed in the meeting and associated annual report. He is thinking about three general themes: changes in the committee charter and membership, safety topics we have addressed in the last year (acid waste, hazardous materials transportation, electrical Activity Hazards Documents (AHDs), cryogenics, access controls, laser accident), and the status and plans for next year (process, peer reviews, and expected topics).

Jim Floyd asked committee members and EHS management what topics they thought the Committee should work on next year. Job Hazards Analysis changes in response to HSS Corrective Action CC1 will be a topic for early 2010. It was suggested that we review accident trends to set priorities.

Space planning, moving, and related construction planning are issues of interest to most Committee members. EHS Safety noted that there are often increased injuries in Divisions during and after moves. Ergonomics injuries sometimes occur after office moves. Problems sometimes arise from conversion of space use from office to lab or lab to office without thorough planning. Coordination between Facilities, EHS, and customers needs to be improved. Safety regulations and DOE orders such as fire codes and nanotechnology standards need to be considered when planning construction projects.

Jim Krupnick presented a draft charter for a space committee at the Division Director's meeting. The Division Directors were asked to suggest who could act as a "Space Czar" to allocate space between divisions. The number of people on site will increase. There is a trend to more shared office space and flexible buildings. There is a shortage of parking space. There is a tendency to plan one project at a time instead of looking at the bigger picture.

It was suggested that we need a project-planning checklist to ensure EHS requirements are considered. In January, Facilities and EHS will begin a design review process initiative. Jim Floyd suggested that we hold a focused workshop.

A related concern was the need for an advocate for space owners/users. For example, some recent offices were constructed without adequate consideration of proper lighting for the type of work that will be done in them. When spaces are constructed without all required safety features, the occupying divisions often have to pick up the cost of fixing the problems.

About 25% of LBNL staff work in off-site locations. There are safety concerns about landlords' rights to enter space and perform maintenance. We may need satellite EHS staff in some off-site locations.

Howard Hatayama suggested nanomaterials as another topic of interest. EHS is conducting a pilot evaluation of nanomaterials dispersal and controls, and collecting data. They will be benchmarking controls schemes with other labs. HEPA filters were not installed at the Molecular Foundry and would be difficult to retrofit. There was no information or standards on nanomaterials controls when the Foundry was designed. EHS wants dialogue/discussion with the SAC about the information they are collecting.

Howard Hatayama also noted that the Federal order to reduce our carbon footprint could impact everyone later in the year.

There is a draft Conduct of Operations order being developed that could be interpreted expansively and might not be appropriate for some types of research work. The Office of Science may have some discretion to determine the applicability.

Emergency preparedness/response and communication of emergency information are topics of interest due to Lessons Learned from the recent power outage. The process for updating the LBNL website was identified as a weak link. Communication to people outside of buildings, emergency lighting, and building evacuation are also areas that could be improved.

Don Lucas and Jim Floyd agreed that the annual meeting should have more interaction with the Lab Director. The Committee needs more feedback from senior Lab management, Division Directors, and EHS about whether the Committee is meeting their needs. What does Dr. Alivisatos want from us? What will the new EHS Director want? Jim Floyd recommended that we take more time to plan before the annual meeting. He would like to meet with the Lab Director first. He asked Committee Members to talk to their Lab Directors.

Environmental Health and Safety (EHS) News – Howard Hatayama

- **H1N1** – The good news is that the H1N1 incidence rate appears to be falling nationally. LBNL will look at whether exposure over the holidays increases the incidence here. The flu going around now is about 90% H1N1. The seasonal flu is expected to peak in January or February. Health Services received about 100 doses of H1N1 vaccine and administered it to high-risk personnel. Additional vaccine has been requested
- **Power outage** – At least one person re-entered an evacuated building against recommendations, and one person ignored the construction zone signs and entered the cafeteria to talk to someone. We still have to work on improving our safety culture and getting people to pay attention to signs. The power outage was a good opportunity to test our systems. A Committee member suggested that evacuations of Bldg. 2 be announced at ALS also, because many researchers in the ALS come from Bldg. 2. Some buildings have emergency power backup on their public address systems and some do not. Outside speakers at LBNL were removed do to community complaints; however, the UC campus has outside speakers. Some

hoods are not on emergency power. A project was started about 10 years ago to identify which ventilation systems do not have emergency power, but the project was not completed. There is an issue about who pays for the installation of emergency power. ALS has been requesting funding through Project Call. There is a proposal to fund some hood upgrades, but it doesn't address the issue of buildings that need more emergency power. The Lab cannot address all safety issues immediately due to funding constraints. The project priorities need to be communicated to employees, and some "little things" should be done to communicate progress. Our safety culture is a bigger risk than the need for physical upgrades. If we label hoods that don't have emergency power, people can take that into consideration when deciding where to do higher hazard work. It is not clear where the boundary of responsibility is between Principle Investigators and Facilities for improvements to laboratories. Who is responsible for ensuring proper design? There is no "insurance" for work that is not done properly.

Non-Construction Safety Assurance Update – Howard Hatayama

The 2007 mercury spill in Bldg. 67 brought our attention to the need to strengthen safety controls for work done at LBNL by visitors, vendors, and subcontractors. Since 2007, we have built a system, performed a pilot, and launched the new requirements. A Users Group meets monthly. EHS recently performed a Technical Assurance Program review of how well the system is working. 136 Subcontractor Job Hazards Analyses (SJHAs) were reviewed, and work was observed on 48. The general findings were that the descriptions of work are not adequate to ensure all hazards are identified, workers are not sufficiently aware of the work authorizations or their requirements, and performance in accordance with controls is less than adequate.

EHS is providing support for calculating arc flash hazards. The demand has been about 1 per week. In most cases, the hazard level at the work location is the same as at the upstream panel. EHS is increasing field support for SJHAs requiring energized electrical permits or LOTO permits. The LOTO pilot program in Facilities is over, and now Divisions have to pay for electricians to support LOTO. We could request overhead funding to pay for it. The work delay while waiting for electricians to be available to do the LOTO is sometimes a greater annoyance than the cost.

EHS is working on improving the SJHA form and process. The current paper-based system will be replaced by a searchable on-line system with guidance. Requestors will be able to record work observations on line, or upload pdfs of their observation records. A beta test will be conducted in February, and the changes will be implemented in March.

There was a question about the distribution of requesters. There are a few people who request a lot of work, but there are many people who request work infrequently. Our distributed approval system is different than that used by most Labs. More site-wide Job Hazards Analyses (JHAs) for vendors doing similar work for different requesters will

help reduce the burden. Division Safety Coordinator involvement is needed to keep the process moving so it doesn't get dropped between EHS, procurement, and the requester.

There was a question about how subcontractors/vendors are reacting to the requirements. We don't know of any that have turned down work, but we do get a lot of pushback about the additional work of completing the forms. We are finding that about 80% of electrical contractors are not fully qualified to do the work. EHS has to help train/coach the contractors in how to meet the minimum state OSHA requirements.

People are finding that the on-site briefing is the most important part of the process. It provides additional information about work scope, hazards, and controls that may not be fully described in the SJHA.

Work requested through Purchasing is being screened for the need for SJHAs. It is harder to capture work vendors do for free that is not processed through Purchasing.

Jim Floyd requested a copy of the Technical Assurance Program report.

JHA Benchmarking – Andrew Peterson

LBNL is conducting a benchmarking study of how other Labs analyze job hazards as part of the response to HSS Corrective Action C1. We are finding that other Labs take a more holistic approach to work planning and control (WPC) processes. Desirable characteristics for a process include:

- Strong Lab Management commitment and involvement. This was particularly evident at SLAC.
- Recognition that research and operations/maintenance require different processes.
- A graded approach based on risks/hazards/complexity.
- A stronger building/area management system. Most Labs have professional building/area managers.
- Looking at co-located hazards in spaces where the work will be done.
- A requirement that someone in the area "release" the work before it is performed.

The benchmarking study found that the integrated systems were the most impressive, and that successful programs had a "process owner" in each Division.

Anita Gursahani asked Division Directors to identify representatives to work on the JHA/WPC process and submit recommendations to Lab Management in March. Many SAC members will be participating as Division representatives.

Facilities will be working on a Zone Management pilot.

Cryogenics – Joe Dionne

Joe Dionne reported on the status of the development of the new cryogenics safety requirements. Testing of the Oxygen Deficiency Hazard calculator has encouraged some researchers to re-evaluate the amount of cryogens they really need in their labs and reduce their hazard levels. We are finding that AHDs are already in place for most high-hazard locations. The draft Chapter is being edited. EHS (Joe Dionne and Dan Best) will be visiting Divisions and doing the risk assessments. It was suggested that the Oxygen Deficiency Monitors be phased in as part of the AHD process. There is still a question about who pays for the monitors. A Quick Guide to the requirements is being developed for cryogen users. The sudden release simulation studies are being finished today. There was a request to also do a study of dispersion of a release in a room with a hood. It was recommended that the Oxygen Deficiency Hazard calculator software be verified. There was a discussion about whether LBNL could sell the software. There was a question about where to keep the oxygen deficiency calculation documentation. Paul Blodgett said EHS would like to be able to include it in the Industrial Hygiene database, as well as the Hazards Management System and the AHD.

The meeting was adjourned at 12:05 PM
Respectfully submitted, Patricia M. Thomas, SAC Secretary